CHAPTER 2
OPERATING INSTRUCTIONS

SECTION I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

2.1 EQUIPMENT FIGURES AND TABLES.
The following figures, as listed in Table 2-1, illustrate and describe the MILES 2000 M2/M3 operating controls and indicators.

Table 2-1. Controls and Indicators Reference

ITEM	FIGURE NO.
Individual Weapons System (IWS) (PN 147421)	2-1
Individual Weapons System (IWS) (PN 148245)	2-2
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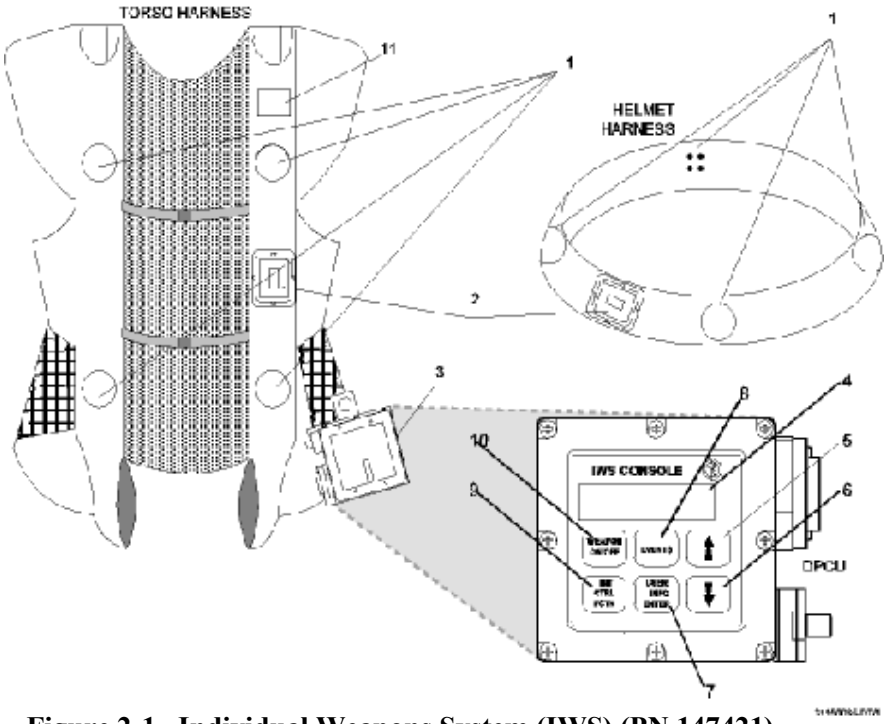

Figure 2-1. Individual Weapons System (IWS) (PN 147421).

1. DETECTORS. The laser detectors receive coded messages from incoming laser transmitters.

2. AMPLIFIER. Amplifies coded messages received from incoming laser transmitters and forwards them to the IWS Console (DPCU) for decoding.

3. IWS CONSOLE [DATA PROCESSING CONTROL UNIT (DPCU)]. Data processing unit for the IWS. Provides user interface and decodes the laser and IR transmitted data for the IWS. Powered by 9-volt battery with approximately 72-hours battery life.

4. DISPLAY WINDOW. Displays system messages.

5. SCROLL UP PUSH BUTTON. Scrolls display up when pressed.

6. SCROLL DOWN PUSH BUTTON. Scrolls display down when pressed.

7. USER INFO/ENTER PUSH BUTTON. Displays user information on the display window and provides enter function for information input.

8. EVENTS PUSH BUTTON. Recalls up to the 16 most recent events when pushed.

9. BIT/CTRL FCTN PUSH BUTTON. Executes BIT and provides various control functions to the user.

10. WEAPON ON/OFF PUSH BUTTON. Enables/disables the Small Arms Transmitter (SAT) via an infrared (IR) link when pressed and IWS is not in a “killed” state.

11. INFRARED (IR) TRANSMITTER. IR communication link between the SAT and the IWS Console (DPCU), and the SAT and Torso and Helmet Harness detectors. Transmits PID and ENABLE/DISABLE to SAT.

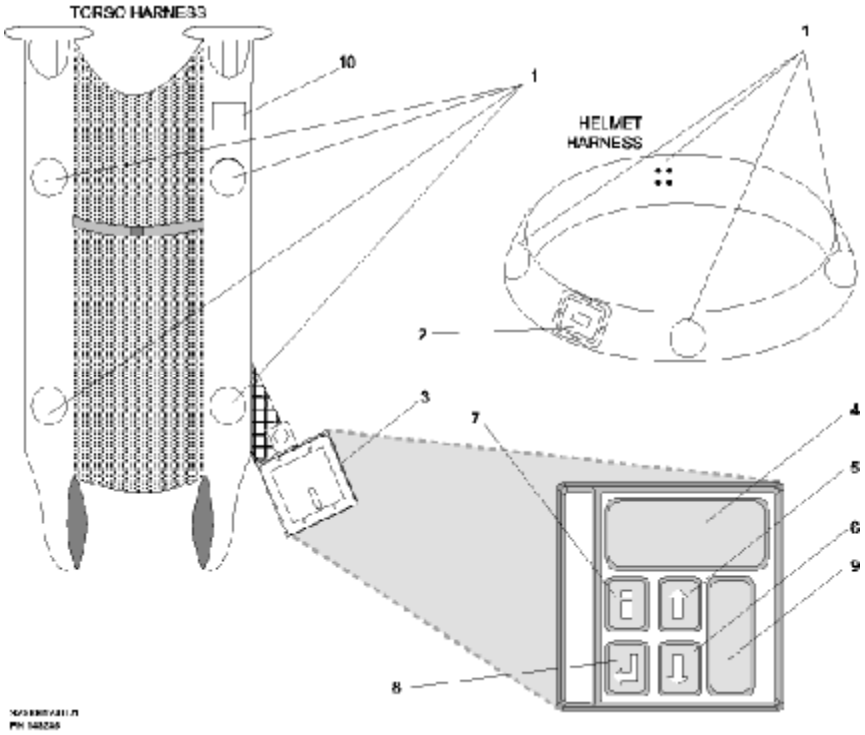

Figure 2-2. Individual Weapons System (IWS) (PN 148245).

1. DETECTORS. The laser detectors receive coded messages from incoming laser transmitters.

2. AMPLIFIER. Amplifies coded messages received from incoming laser transmitters and forwards them to the IWS Console (DPCU) for decoding.

3. IWS CONSOLE [DATA PROCESSING CONTROL UNIT (DPCU)]. Data processing unit for the IWS. Provides user interface and decodes the laser and IR transmitted data for the IWS. Powered by an internal 3.6-volt lithium battery with approximately a 12-month battery life.

4. DISPLAY WINDOW. Displays system messages.

5. SCROLL UP PUSH BUTTON. Scrolls display up when pressed.

6. SCROLL DOWN PUSH BUTTON. Scrolls display down when pressed.

7. INFO PUSH BUTTON. Displays user information on the display.

8. ENTER PUSH BUTTON. Provides Enter function for information input.

9. OPTICAL PORT. Bidirectional IR communication link used by CD/TDTD for uploading and downloading data.

10. INFRARED (IR) TRANSMITTER. IR communication link between the SAT and the IWS Console (DPCU), and the SAT and Torso Harness and Helmet Harness detectors. Transmits PID and ENABLE/DISABLE to SAT.

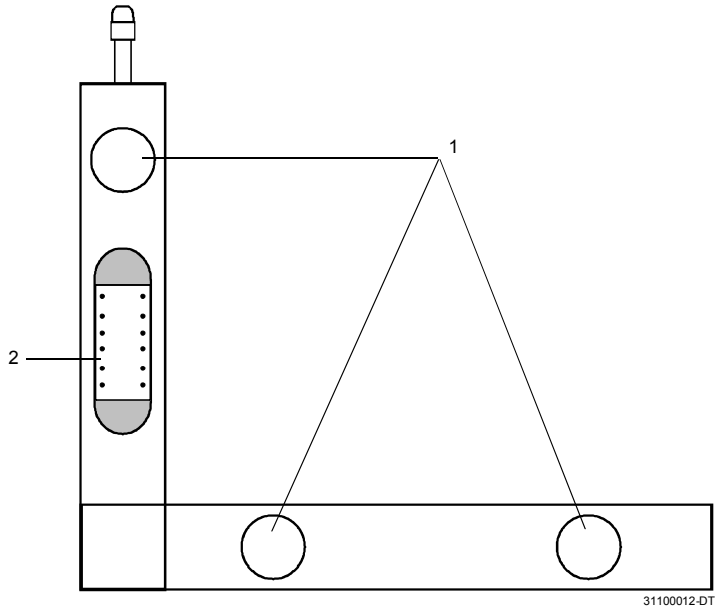

Figure 2-3. Vehicle Detector Belt Components.

1. DETECTORS. Detects laser transmissions that are being fired at the vehicle.

2. AMPLIFIER. Amplifies coded laser signals that simulate incoming fire and forwards them to the KSI.

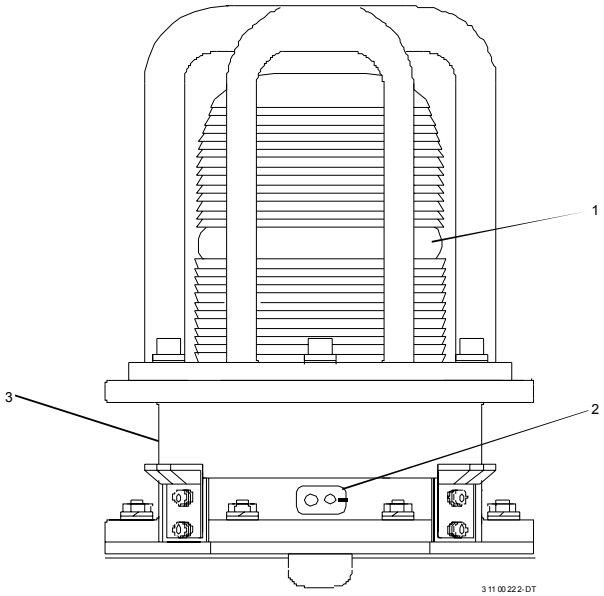

Figure 2-4. Kill Status Indicator (KSI) Assembly.

1. VISUAL STROBE. Provides a 360° azimuth and 60° elevation optical output when a vehicle is hit (housed in an amber dome).

2. OPTICAL PORT. Bidirectional IR communication link used by CD/TDTD for uploading and downloading data.

3. CONNECTOR (not shown). System Cable connection.

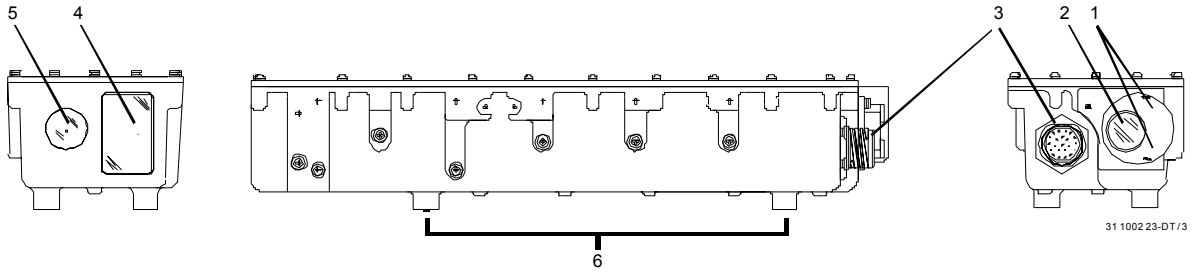

Figure 2-5. Universal Laser Transmitter (ULT).

1. BORESIGHT ADJUSTMENT KNOB. Used to align the ULT scope to the target.
2. SCOPE REAR SIGHT. Used to align the main gun with the target.
3. CONNECTOR. Cable connection from the CU to the ULT.
4. FLASHWESS. Indicates when the main gun has been fired (M2/M3).
5. LASER OPTICAL WINDOW. Window through which the ULT laser beam is transmitted.
6. ADAPTER MOUNTING POSTS. (Adapter mount not shown).

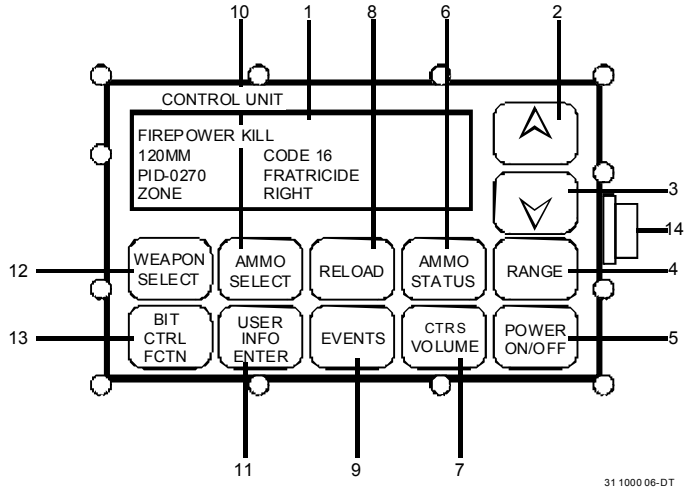

Figure 2-6. Control Unit (CU).

1. DISPLAY WINDOW. Displays events and system messages. (Example display shown.)

2. SCROLL UP PUSH BUTTON. Scrolls display up when pressed.

3. SCROLL DOWN PUSH BUTTON. Scrolls display down when pressed.

4. RANGE PUSH BUTTON. Allows the operator the option to input his estimate of target range (M2/M3 TOW ONLY).

5. POWER ON/OFF PUSH BUTTON. Enables/disables the MILES 2000 System.

6. AMMO STATUS PUSH BUTTON. Displays number of rounds remaining for selected weapon.

7. CTRS/VOLUME PUSH BUTTON. CTRS allows user to adjust illumination of display. VOLUME allows user to adjust audio to the vehicle headset.

8. RELOAD PUSH BUTTON. Causes the system to load any available selected remaining ammunition shown in the display window.

9. EVENTS PUSH BUTTON. Allows the operator to review the 16 most recent events on the display window.

10. AMMO SELECT PUSH BUTTON. Allows the operator to view the different ammunition quantities and types available for the TOW.

11. USER INFO/ENTER PUSH BUTTON. Allows operator the ability to check his PID and vehicle type, override the communications disable function under Communications/Catastrophic kill conditions in an emergency, and to enable/disable a DIFCUE or MGSS. ENTER allows controller to enter commands selected in Control Mode.

12. WEAPON SELECT PUSH BUTTON. Allows the operator the option to select the desired weapon to be used.

13. BIT/CTRL FCTN PUSH BUTTON. A BIT executes a system BIT with the results shown in the display window. CTRL FCTN allows controller to select vehicle platform type, blank or dry fire coax activation, FlashWESS or ATWESS activation, etc.

14. CONNECTOR. System Cable connection.

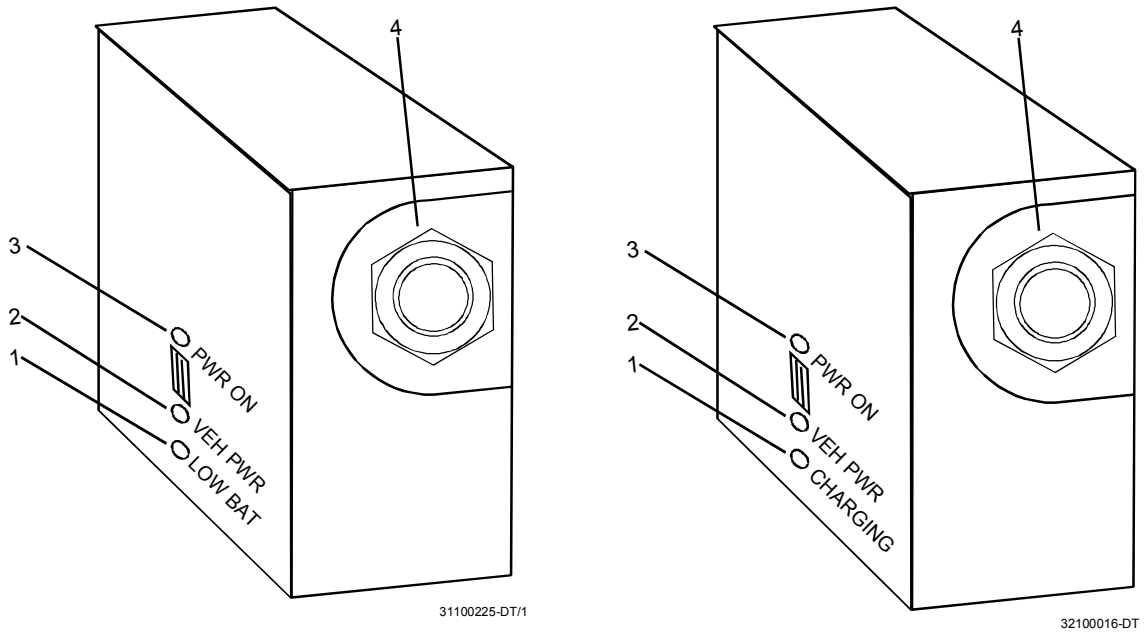

Figure 2-7. Power Controller.

1. LOW BATT INDICATOR (146409-1). LED blinks continuously to indicate low internal battery power. Illuminates when battery voltage drops to 21 ±1 Vdc.

2. CHARGING INDICATOR (146409-2). Illuminates when battery voltage drops below 27.5 Vdc, and battery is charging.

3. VEHICLE POWER PRESENT INDICATOR. LED blinks continuously when vehicle power is at the CVS system, and the internal batteries are being trickle charged.

4. 10.5 VDC POWER PRESENT INDICATOR. LED blinks continuously when 10.5 Vdc power is ON.

5. CONNECTOR. System Cable connection.

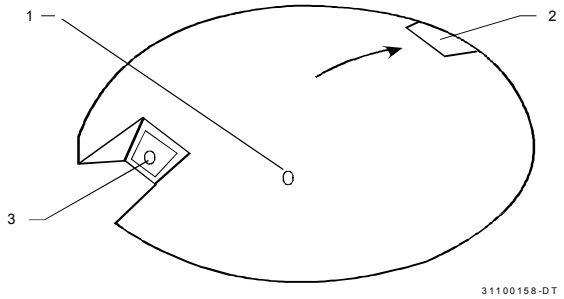

Figure 2-8 Optical Turret Positioning Device (OTPD).

1. POWER ON INDICATOR. Illuminates for six (6) seconds upon installation of a new 9-volt battery.

2. INFRARED TRANSMITTER WINDOW. Used by the OTPD to transmit an IR signal allowing the CVS System to determine the position of the turret when receiving an incoming MILES 2000 message.

3. BATTERY DOOR SCREW. Turn counterclockwise to remove battery and clockwise to secure battery in battery compartment.

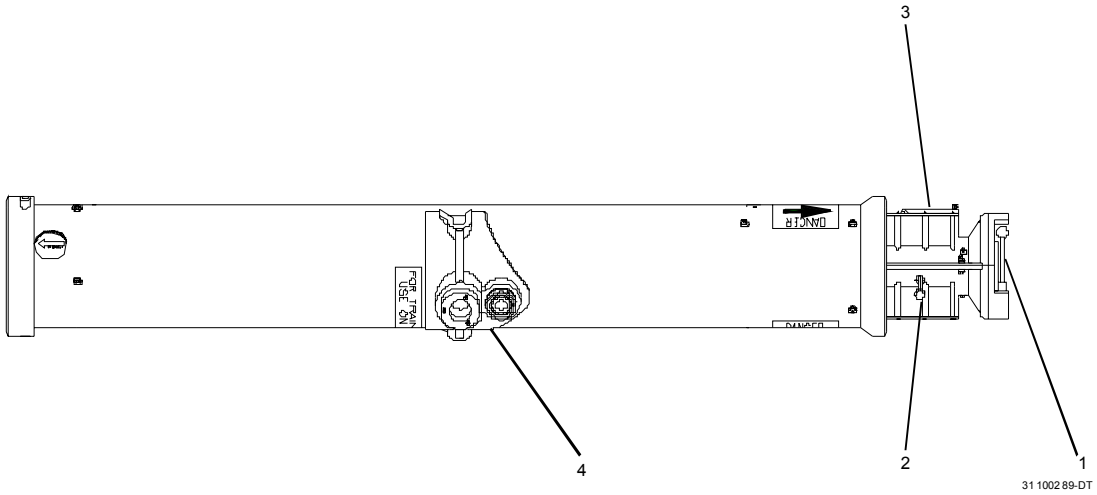

Figure 2-9. TOW Simulator Tube.

1. BREECH LOCK LEVER. When open, allows the soldier to insert an Anti-Tank Weapons Effect Signature Simulator (ATWESS) cartridge.

2. ATWESS ASSEMBLY (not shown). Contains the ATWESS cartridge.

3. 9-VOLT BATTERY DOOR. When open, allows insertion of two (2) 9-volt batteries with the terminals facing down.

4. UMBILICAL CONNECTOR